Title (en)

INJECTION-LOCKING A SLAVE OSCILLATOR TO A MASTER OSCILLATOR WITH NO FREQUENCY OVERSHOOT

Title (de)

INJEKTIONSSTABILISIERUNG EINES SLAVE-OSZILLATORS AUF EINEN MASTER-OSZILLATOR OHNE FREQUENZÜBERSCHWINGUNG

Title (fr)

VERROUILLAGE PAR INJECTION D'UN OSCILLATEUR ESCLAVE À UN OSCILLATEUR MAÎTRE SANS DÉPASSEMENT DE FRÉQUENCE

Publication

EP 2740220 B1 20150513 (EN)

Application

EP 12759285 A 20120801

Priority

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- US 2012049224 W 20120801

Abstract (en)

[origin: US2013033331A1] An injection-locked oscillator circuit includes a master oscillator, a slave oscillator, and an injection lock control circuit. The slave oscillator is decoupled from the master oscillator (for example, due to an unlock condition). When the slave is free running, its oscillating frequency is adjusted (for example, as a function of a supply voltage). After an amount of time, the slave is to be relocked to the master (for example, due the unlock condition no longer being present). The slave oscillating frequency is made to be slightly lower than the master oscillating frequency. The slave is then only recoupled to the master upon detection of an opposite-phase condition between the master oscillator output signal and the slave oscillator output signal. By only recoupling the slave to the master during opposite-phase conditions, frequency overshoots in the slave oscillating frequency are avoided that may otherwise occur were the recoupling done during in-phase conditions.

IPC 8 full level

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CPC (source: EP US)

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